



Water Quality & Environmental Restoration

Dave Shepp



WATER QUALITY MANAGEMENT

- **WATER QUALITY MONITORING & ASSESSMENT AT COE FACILITIES**
- **TMDLs: ASSESSMENT STUDIES (FOR OTHERS) & COMPLIANCE (COE FACILITIES)**
- **FISHERIES MANAGEMENT AT DAMS (TEMPERATURE/TOTAL DISSOLVED GAS, SEDIMENT, PASSAGE)**
- **EVALUATION/MANAGEMENT OF CONTAMINATED SEDIMENTS**
- **WATERSHED MANAGEMENT STUDIES**





ENVIRONMENTAL RESTORATION

- **WATERSHED RESTORATION**
- **WETLANDS CREATION**
- **PROTECTION OF ENDANGERED SPECIES**
- **CONTAMINATED SEDIMENT MANAGEMENT-
ENVIRONMENTAL DREDGING**
- **AQUATIC/TERRESTRIAL
HABITAT CREATION**
- **STREAMBANK STABILIZATION**
- **RIPARIAN ZONE
MANAGEMENT**
- **FORESTRY MANAGEMENT**





COMMITTEE ON WATER QUALITY

- **1 OF 4 STANDING CW TECHNICAL COMMITTEES**
- **PROVIDES POLICY AND TECHNICAL GUIDANCE**
- **IDENTIFIES AGENCY-WIDE RESEARCH NEEDS**
- **PROVIDES CONSULTING SERVICE TO DISTRICTS & DIVISIONS**
- **DISSEMINATES KEY INFO CORPS-WIDE**



HQ Business Area Manager Environmental Technologies Research & Development

- **SMART Program**
- **EMRRP Program**
- **LEDO Program**



Team Leader HQ TMDL Team

- **SAD-Georgia Dams-D.O. TMDLs**
- **NWD Columbia River Mainstem-Dissolved Gas & Temperature, Toxics (in development)**
- **HQ Team Formed- Fall 2002**
- **Problems With EPA Region X**
- **Issues With New EPA TMDL Rule**
- **Prepared Proposed New Language For G. Dunlop, ASA Office**
- **Engage HQ Team In Issues-Keep Corps-wide POCs In Loop**



Team Leader

HQ Environmentally Sustainable Demonstration Team

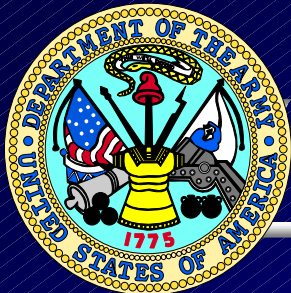
- **Formed February 2003**
- **HQ, EL, CHL Partnership-Early stages**
- **Mission: To Foster Corps-wide Environmental Sustainability**
- **Goals: Via Demonstration Projects, Show What Is Meant By, and How To Achieve, Environmentally Sustainable Projects**



Team Leader

HQ Environmentally Sustainable Demonstration Team

- **Initial Objectives: Identify And Promote Appropriate Projects**
- **Ongoing Initiatives:**
 - Screening Tool Development-Prioritization
 - Identification of Potential District Partners
 - 3-Tiered Demo Classification:
 - 1) Existing, 2) On-going, 3) Planned



HQ R&D Gang Lead EOP Integration and Evaluation

- **Workgroup Formed March 2003**
- **Evaluation and Recommendation-
Infrastructure Proposal for Developing
SPiRiT-Based Tool for Measuring EOP
Integration**
- **SPiRiT Approach-Appropriate, But Too
Narrowly Focused—Need Broadly-Based
System For EOP Integration Across
Breadth of CW Activities**
- **Developed Strawman Proposal For EOP
Integration and Evaluation for CW**



HQ R&D Gang Lead EOP Integration and Evaluation

- **Present Strawman Proposal FRG (May-June)**
- **Conduct Workshop (Summer)-Integrate Comments**
- **Final Version-Guides Development of ERDC FY 04 Work Units-Develop Prototype EOP Integration Framework and Evaluation System For Corps CW**
- **Test/Refine/Apply Prototype System**
- **Develop/Apply First Generation System Corps-wide**



Water Quality Issues

- **TMDLs**
- **Gulf of Mexico Hypoxia**
- **Lake Erie Hypoxia**
- **Everglades Restoration**
- **Hydropower Operations**
- **Reservoir Operations**
- **Mining Impacts (Western & Eastern)**



Water Quality Issues

- **CWA vs ESA Conflicts**
- **Coastal Louisiana 2050**
- **Missouri River Basin**
- **Upper Mississippi EMP**
- **Contaminated Sediments**
- **Environmental Restoration/Protection**
- **Small Dam Removal**



CORPS CHALLENGES: WATER QUALITY, ENVIRONMENTAL RESTORATION AND EOP INTEGRATION

- **Personal Views Only**
- **Track with Gen. Flowers EOPs, Fred Caver's & Don Basham's Talks**
- **Fresh Perspective**
- **Consider/Embrace/Pursue Challenges That Make Sense**



CORPS CHALLENGES: WATER QUALITY, ENVIRONMENTAL RESTORATION AND EOP INTEGRATION

- **RESISTANCE TO CHANGING THE WAY WE THINK ABOUT OUR WORK-
INTEGRATING THE ENVIRONMENTAL
ETHIC**
- **RESISTANCE TO CHANGING THE WAY WE APPROACH & EXECUTE PROJECTS &
ACTIVITIES**
- **MODIFICATION EXISTING/CREATION OF
NEW LAWS/REGS**



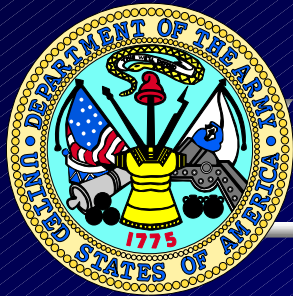
CORPS CHALLENGES: WATER QUALITY, ENVIRONMENTAL RESTORATION AND EOP INTEGRATION

- **Pursue Congressional and OMB Support For Required Additional Funding-Must Earn Increased Financial Support Via Enhanced Environmental Performance-In Conjunction With Other Project Objectives**
- **Constantly push envelop of science and engineering to maintain/gain technological superiority to Private Sector-Must provide superior cost-effective product to customers**



CORPS CHALLENGES: WATER QUALITY, ENVIRONMENTAL RESTORATION AND EOP INTEGRATION

- **Corps-Single Largest Water Resource Management Entity in World-Tremendous Opportunities Exist Every Day for Learning-Must Capitalize Upon Organizational Size, Scope, Authority, and Breadth of Exposure to Natural/Managed Systems**
- **Identify/catalog pockets of applied knowledge and experience in the Districts and create virtual library/learning centers via the internet**



CORPS CHALLENGES: WATER QUALITY, ENVIRONMENTAL RESTORATION AND EOP INTEGRATION

- **New Commitment to In-House Teaching**
- **Target Technical Leaders in all areas and develop aggressive in-house training for staff-raise bar overall**
- **Develop regular program of technical seminars to constantly learn from top internal and external researchers and practitioners of interdisciplinary science and engineering-source of new ideas, fresh perspectives on routine applications**



CORPS CHALLENGES: WATER QUALITY, ENVIRONMENTAL RESTORATION AND EOP INTEGRATION

- **Develop 1-year mentoring program for replacement of key technical positions**
- **Develop co-op agreements with top college scholars-develop tuition programs to replenish Boomer attrition with high quality replacements**



CORPS CHALLENGES: WATER QUALITY, ENVIRONMENTAL RESTORATION AND EOP INTEGRATION

- **Foster “Out of the Box” Thinking via a systematic reward program and wide-spread circulation of worthy ideas and their creators.**
- **Foster inter-lab and intra-agency cooperation/teaming. Share/distribute details of outstanding examples.**



CORPS CHALLENGES: WATER QUALITY, ENVIRONMENTAL RESTORATION AND EOP INTEGRATION

- **If not done already, Include effective promotion of comprehensive EOP Integration and Evaluation in SES and senior managers' job performance evaluations**
- **Provide incentive-based system of reward for cost-effectively integrating innovation and creativity in getting job done better and quicker.**